

What is claimed is:

1. (canceled)
2. (canceled)
3. (canceled)
- 5 4. (canceled)
5. (canceled)
6. (canceled)
7. An exposure device for irradiating an exposure beam to a substrate having a resist formed thereon, comprising:
 - 10 a substrate mount portion for holding the substrate;
 - a spindle for rotating the substrate mount portion;
 - a fluid bearing portion for holding the spindle; and
 - a conduit pipe for supplying cooling fluid through the fluid bearing portion and the spindle to the substrate mount
 - 15 portion.
8. The exposure device according to claim 7, wherein the spindle has a groove portion through which the cooling fluid supplied through the fluid bearing portion is taken into the conduit pipe provided in the spindle.
- 20 9. The exposure device according to claim 7, further comprising a cooling fluid supply portion and a cooling fluid supply conduit pipe for supplying cooling fluid from the cooling fluid supply portion to the conduit pipe provided in the spindle.
10. (canceled)
- 25 11. An exposure device for irradiating an exposure beam to a disc-shaped substrate having a resist formed thereon to form a latent image on the resist, comprising:

a substrate mount portion for holding the substrate and rotating the substrate;

an irradiating portion for irradiating the exposure beam to the substrate; and

5 a low temperature member that is disposed at the exposure surface side of the substrate and at the rotational downstream side of the irradiation position of the exposure beam.

12. The exposure device according to claim 11, wherein the low temperature member is disposed at the exposure surface side
10 of the substrate and at the opposite side to the irradiation position with respect to the center of the substrate.

13. (Added) An exposure device for irradiating an exposure beam to a substrate having a resist formed thereon, comprising:

a substrate holding portion for holding the substrate;

15 a driving portion for varying the irradiation position of the exposure beam relatively to the substrate; and

an air blower for feeding air to the irradiation position of the exposure beam during irradiation of the exposure beam to cool the irradiation position.

20 14. (Added) The exposure device according to claim 13, further comprising a temperature detector for detecting the temperature of the irradiation position, and a temperature controller for controlling the temperature of the irradiation position on the basis of the temperature detected by the
25 temperature detector.

15. (Added) The exposure device according to claim 13 or 14, wherein the exposure beam is a light beam.

16. (Added) The exposure device according to any one of claims 13 to 15, wherein the resist is a chemical amplification type resist.

17. (Added) An exposure device for irradiating an exposure beam to a substrate having a resist formed thereon to form a latent image formed on the resist comprising:

a substrate holding portion for holding the substrate;

a driving portion for rotating and translating the substrate to vary the irradiation position of the exposure beam

relatively to the substrate;

a cooling portion for cooling the substrate during irradiation of the exposure beam;

an irradiation position detector for detecting the irradiation position of the exposure beam;

a plurality of temperature detectors arranged along the radial direction of the substrate for detecting the temperatures of the substrate; and

a temperature controller for controlling the temperature of the irradiation position on the basis of the temperature detected by the plurality of temperature detectors.

18. (Added) The exposure device according to claim 17, wherein the substrate is mounted on the substrate holding portion and the cooling portion is a cooling pipe provided in the substrate holding portion.

19. (Added) The exposure device according to claim 17 or 18, wherein the exposure beam is an electron beam. 17

20. (Added) The exposure device according to claim 17, wherein

the exposure beam is a light beam, and the cooling portion is a cooling device.

21. (Added) The exposure device according to any one of claims 17 to 20, wherein the resist is a chemical amplification
5 type resist.